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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,748	11/09/2006	Claude Thibodeau	BRKP:004US/10509999	3767

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FULBRIGHT & JAWORSKI L.L.P.
600 CONGRESS AVE.
SUITE 2400
AUSTIN, TX 78701

EXAMINER	
SCHMIDTMANN, BAHAR	

ART UNIT	PAPER NUMBER
1623	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/550,748	THIBODEAU ET AL.	
	Examiner	Art Unit	
	BAHAR SCHMIDTMANN	1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 February 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) *10-22,26-28 and 31-34* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9,23-25,29,30 and 35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 September 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/09/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This application is a 35 U.S.C. § 371 National Stage Filing of International Application No. PCT/CA04/00473, filed 26 March 2004, which claims foreign priority under 35 U.S.C. §119(a-d) to CA 2423712, filed 26 March 2003.

The preliminary amendments filed 02 November 2009 is acknowledged. Claims 1-35 are pending in the current application. Claims 10-22 and 31-34 are withdrawn as being drawn to a nonelected invention, see below. Claims 26-28 are withdrawn as being drawn to a nonelected species, see below. Claims 1-9, 23, 24, 25, 29, 30 and 35 are examined on the merits herein.

Information Disclosure Statement

The Information Disclosure Statement submitted 09 November 2006 is acknowledged and considered.

Election/Restrictions

Claims 10-22 and 31-34 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 02 November 2009.

Claims 26-29 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or

linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 02 November 2009.

Applicant's election **with** traverse of Group I, claims 1-9, 23-30 and 35 in the reply filed on 02 November 2009 is acknowledged. The traversal is on the ground(s) that all of the claims share a special technical feature, which is not disclosed in the cited art. It should be noted that this is merely a conclusatory statement, without specific arguments as to why the technical feature is special and is not disclosed in the cited art. As discussed in the previous Office Action, filed 14 May 2009, Shasha et al. (US Patent 5,997,945, issued 7 December 1999, cited in previous Office Action) teaches formation of adherent granules by mixing starch and anhydrous $CaCl_2$, in a weight percent ratio of starch to water about 39:1, and allowing water to be absorbed from the air (column 10, lines 6-9). Shasha et al. also teaches that said starch is preferably waxy cornstarch (column 7, lines 13-14), and that waxy cornstarch contains only amylopectin (column 7, lines 10-11). Shasha et al. teaches that the desired particle size can be obtained by mesh sieving through a 20 mesh to obtain particles having a diameter of as small as 425 μm (column 11, lines 5-10). Consequently, the particulate absorbent lacks a *special technical feature* as defined by PCT Rule 13.2 as it does not possess an inventive step over the teachings of the prior art.

The requirement is still deemed proper and is therefore made FINAL.

To expedite prosecution of this application, the election of species of co-absorbent has been expanded to include carboxymethyl cellulose (instant claim 29).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 3 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 30 contains the trademark/trade name Nylon™ and Lyocell™. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe fiber and, accordingly, the identification/description is indefinite.

Claim “2” recites the limitation "self-entangled starch" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 1 from which claim 2 depends recites “starch molecules”, which is interpreted to mean unmodified starch molecules that have not been altered chemically or enzymatically. However, self-

entangled starch in claim 2 implies that the starch was subjected to a specific reaction condition or environment causing the chains of the starch polymer to become entangled. Similarly, claim "3" recites “cross-linked starch” which implies that the starch has been chemically modified from its natural form. Because claim 1 implies only the natural unmodified form of starch, there is a lack of antecedent basis for the recitation “self-entangled starch” in claim 2 and “cross-linked starch” in claim 3.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-9, 23, 24, 25, 29, 30 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shasha et al. (US Patent No. 5997945, cited in previous

Office Action) in view of Feil (EP 0900807, cited by Applicant in Information Disclosure).

Shasha et al. (US Patent 5,997,945, issued 7 December 1999, cited in previous Office Action) teaches formation of adherent granules by mixing starch and anhydrous $CaCl_2$, in a weight percent ratio of starch to water about 39:1, and allowing water to be absorbed from the air (column 10, lines 6-9). Shasha et al. also teaches that said starch is preferably waxy cornstarch, i.e. waxy maize starch (column 7, lines 13-14), and that waxy cornstarch contains only amylopectin, i.e. 100% amylopectin (column 7, lines 10-11). Shasha et al. teaches that the desired particle size can be obtained by mesh sieving through a 20 mesh to obtain particles having a diameter of as small as 425 μm (column 11, lines 5-10). Shasha et al. teaches the starch can be mixed with a water absorbent polymer that is synthetic, or naturally occurring (column 7, lines 61-67 and column 8, lines 1-2). Shasha et al. teaches the water absorbent polymer can be carboxymethyl cellulose (column 7, line 66).

Shasha et al. does not expressly disclose a self-entangled starch (instant claim 2). Shasha et al. does not expressly disclose fiber as a co-absorbent material (instant claim 23). Shasha et al. does not expressly disclose a free swell capacity and centrifuge retention capacity (instant claim 35).

Feil teaches a water-absorbing polymer comprising cross-linked starch or starch derivative, wherein the particle size ranges from 1 mm to 1 nm (column 4, lines 15-20). Feil teaches the starch can be cross-linked with trisodium trimetaphosphate (column 3, lines 13-15; columns 5-7, examples 1-5 and 7; claim 4). Feil teaches any native

granular starch, physically, enzymatically or chemically modified starch may be used (column 2, lines 53-58 and column 3, lines 1-12). Feil teaches the water-absorbing cross-linked starch can be used as sanitary product, medical aid such as bandages, coating for drugs to control the release rate by degradation of the hydrogel, humidity controlling agents for agriculture and horticulture, encapsulant for colorants, fragrances, perfumes, fertilizers and nutrients, pet litter and gel filtration columns (column 4, lines 48-58 and column 5, lines 1-5).

Feil teaches the particle size is determined by mixing energy parameter, suggesting the size can be modified by altering mixing energy (column 4, lines 16-20). Feil teaches starch or the starch material cross-linked with sodium trimetaphosphate wherein the particle size is 300-400 μm (column 5, example 1, lines 18-20 and claims 1 and 4). Feil teaches also teaches cross-linked starch material wherein the particle sizes range from 0.2 to 10 micron (column 7, lines 11-13).

It would have been obvious at the time the invention was made to have a particulate absorbent material comprising starch molecules that is at least 90% (w/w) amylopectin wherein the particles range from 89 μm to 589 μm, wherein fiber or carboxymethyl cellulose is used as a co-absorbent.

MPEP 2141 states, "The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in KSR noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Court quoting In re Kahn, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006), stated that "[R]ejections on

obviousness cannot be sustained by mere conclusatory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.'" KSR, 550 U.S. at, 82 USPQ2d at 1396. Exemplary rationales that may support a conclusion of obviousness include: (A) Combining prior art elements according to known methods to yield predictable results; (B) Simple substitution of one known element for another to obtain predictable results; (C) Use of known technique to improve similar devices (methods, or products) in the same way; (D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; (E) " Obvious to try " choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; (F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art; (G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention."

Based on the teachings of the MPEP and KSR above, by employing the rationale in (A) combining prior art elements according to known methods to yield predictable results, (B) simple substitution of one known element for another to obtain predictable results and (G) some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention; one having ordinary skill in the art

would have been motivated to combine a particulate absorbent material comprising starch molecules that is at least 90% (w/w) amylopectin wherein the particles range from 89 µm to 589 µm with fiber or carboxymethyl cellulose as a co-absorbent. From the teaching of Fiel, it is known that cross-linked starch materials, such as starch cross-linked with sodium trimetaphosphate, can be used in drug release formulations (i.e. active agent) as well as absorbent materials. As a result, one having ordinary skill would be motivated to use the waxy maize starch that contains 100% amylopectin in lieu of the starch derivatives taught by Fiel, i.e. starch cross-linked with sodium trimetaphosphate and combine the starch with a co-absorbent such as carboxymethyl cellulose. Shasha et al. also teaches that naturally occurring water-absorbing polymers can also be used, thus one would have been motivated to use underivatized cellulose because it is less expensive than carboxymethyl cellulose and is also naturally biodegradable and thus environmentally friendly.

It is also known that the way the starch is produced influences particle size. Shasha et al. and Fiel teach various sizes of starch particles that are in the micron range and overlap with that of instant application. "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists", see MPEP 2144.05 [R-5].

Moreover, since the Office does not have the facilities for preparing the claimed materials and comparing them with prior art inventions, the burden is on Applicant to show a novel or unobvious difference between the claimed product and the product of the prior art. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *In re*

Fitzgerald, 619 F.2d 67, 205 USPQ 594 (CCPA 1980), see MPEP 2112. Therefore, the waxy maize starch disclosed by Shasha et al. is assumed to be self-entangled (or chain entangled), have a free swell capacity of at least 13 g/g and a centrifuge retention capacity of at least 10 g/g.

Thus, the claimed invention as a whole is *prima facie* obvious over the combined teaching of the prior art.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 23-25 and 29 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4, 5, 15, 16, 25, 26 of copending Application No. 10/422881.

Claims 23-25 and 29 of the instant application are drawn to an absorbent composition comprising starch molecules comprising at least 90% (w/w) amylopectin and the particle size ranges from 89 µm to 589 µm in addition to a co-absorbent material. The co-absorbent material is selected from the group consisting of synthetic superabsorbent polymers, mannose containing polysaccharides, ionic polysaccharides, fibers and mixtures thereof.

Claims 1, 4, 5, 15, 16, 25 and 26 of the '881 application are drawn to an absorbent composition comprising starch and one or more components selected from the group consisting of mannose containing polysaccharides, ionic polysaccharides and gelling proteins or polypeptides, wherein the starch includes waxy maize starch (claim 15). Claims 25 and 26 recite that the particle size ranges from 80 µm to about 800 µm, which overlaps with that of instant application. "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists", see MPEP 2144.05 [R-5].

It would have been obvious at the time the invention was made to formulate an absorbent composition comprising a starch material that is at least 90% (w/w) amylopectin and particle size ranges from 89 µm to 589 µm with a co-absorbent material since the same composition with closely overlapping particle size ranges is taught in the '881 application.

Thus, claims 23-25 and 29 are obvious in view of the '881 application.

This is a provisional obviousness-type double patenting rejection.

Claims 1-6, 23-25 and 29 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3, 5, 21, 22, 25 and 26 of copending Application No. 10/953873.

Claims 1-6 of the instant application are drawn to an absorbent composition comprising starch molecules comprising at least 90% (w/w) amylopectin (species drawn to waxy maize starch, i.e. 100% amylopectin) and the particle size ranges from 89 µm to 589 µm. Claims 23-25 and 29 are drawn to the above composition in addition to a co-absorbent material. The co-absorbent material is selected from the group consisting of synthetic superabsorbent polymers, mannose containing polysaccharides, ionic polysaccharides, fibers and mixtures thereof.

Claims 1-3 and 5 of the '873 application is drawn to an absorbent composition comprising a polysaccharide network wherein the particle size ranges from 88 µm to 590 µm. Claim 3 is drawn to a biodegradable polysaccharide, including amylopectin (i.e. waxy maize starch). "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists", see MPEP 2144.05 [R-5]. Claims 21, 22, 25 and 26 are drawn to the composition of claim 1 in addition to at least one co-absorbent material consisting of synthetic superabsorbent polymers, mannose-based polysaccharides, ionic polysaccharides, fibers and mixtures thereof.

It would have been obvious at the time the invention was made to formulate an absorbent composition comprising a starch material that is at least 90% (w/w) amylopectin and particle size ranges from 89 µm to 589 µm with a co-absorbent

material since the same composition with closely overlapping particle size ranges is taught in the '873 application.

Thus, claims 23-25 and 29 are obvious in view of the '881 application.

This is a provisional obviousness-type double patenting rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ms. BAHAR SCHMIDTMANN whose telephone number is 571-270-1326. The examiner can normally be reached on Mon-Thurs 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Shaojia Anna Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BAHAR SCHMIDTMANN/
Patent Examiner
Art Unit 1623

/Shaojia Anna Jiang/
Supervisory Patent Examiner
Art Unit 1623